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Birds recorded from Pulau Jarak, Malacca Strait

By C. A. GIBSON-HILL, M.A., M.B.O.U.

The only previous paper on the birds of Pulau Jarak was published by Robinson & Kloss in 1922. It is based on a collection made by a party under the late E. Seimund of the Selangor Museum in November 1919; it lists 29 species as occurring on or near the island. Prior to this a few skins had been taken there in December 1904 (by Robinson) and in March 1906, December 1912 and April 1915 (by collectors from the Selangor Museum), but no reference is made to this material in the 1922 list. Jarak was also visited in April 1932, when a party of eight persons, again lead by E. Seimund, spent three weeks there. Some of the records established by this expedition are cited in the Checklist of Malayan Birds (Gibson-Hill, 1949: *passim*). In preparing the present paper a search has been made in the Raffles Museum collection for all the skins taken on Jarak on any of the six visits. As a result the number of birds known from the island is now placed at 49 species.[1]

Jarak, as is noted in the preceding paper, lies in the middle section of the Malacca Strait, approximately 40 miles from the nearest point on the Perak coast, and about 30 miles from the Sembilan Islands. It is a steep-sided, densely wooded island, rising to a height of a little over 500 feet and with an area of roughly 75 acres. In form and appearance it resembles Pulau Pisang, off the coast of Johore, but it is smaller and much further (about 30 miles) from the mainland. Like Pisang it is steep-to, with a narrow fringe of boulders where the land runs into the sea and no proper beaches. A fuller description of the island, based on their stay there, in January–February 1950, is given by Audy, Harrison, and Wyatt-Smith, on pages 230–261 of this journal.

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[1] This total does not include "a bird with a call like a crow" which was heard by Harrison (*in litt*) at the end of January 1950. Robinson (1906: 16) saw a crow on the Aroas, but was not able to identify it specifically. Robinson and Kloss (1922: 255) refer to the presence of crows in their introduction to the avifauna of Pulau Rumbia, but do not include a species of *Corvus* in the subsequent list of birds known from the island. There may possibly be crows on these islands, or the calls may have been produced by Koels, which apparently visit them in some numbers during the autumn and winter months. Harrison (this journal *antea*) also suggests that there was a Malkoha on the island at the time of his visit; again it seems more likely that the bird was a male Koel.

Fairly extensive collections have been made at different times at four points in the middle section of the Malacca Strait—on Pulau Jarak, the Sembilan Islands (Pulau Rumbia), the One Fathom Bank Lighthouse and the Aroa Islands.[1] We certainly cannot claim to know the full range of the birds occurring in this area; further collecting will undoubtedly extend the lists, but there is already sufficient material available to make a preliminary comparison possible. This is done in the accompanying table in terms of the number of species recorded from each locality. They are shown under the field headings of Sea Birds, Shore Birds, and Land Birds, in view of the different habitat requirements of the members of the three groups. Pulau Jarak has little to commend it to sea or coastal birds, while the Aroas (see Robinson, 1906: 8–9) must inevitably prove attractive to both. So far as we know the former has 7 breeding species and the latter 8, but as the table shows the Jarak total is made up of 2 herons and 5 land birds, and the Aroa total of 3 herons, 4 sea birds and only 1 land bird.

The only sea bird nesting in the Malacca Strait which could make use of the Pulau Jarak shore is the Blacknaped Tern, *Sterna sumatrana*, but it is most unlikely that members of this species, which is not known from the Aroas, would frequent a small isolated island so far from the mainland. Similarly the majority of the immigrant terns occurring in this region prefer shallower waters. Nordmann's Tern, *Sterna hirundo longipennis*, is probably the only one that was certain to turn up on Pulau Jarak. The other passage migrant recorded from it, the Lesser Crested Tern, *Sterna bengalensis*, is a more coastal species, and cannot be visiting it regularly. One local wanderer, *Sula leucogaster* from the Aroas, has been recorded to date, but two others, *Sterna anæthetus* and *S. dougallii*, must occasionally reach it.

The most interesting section of the shore birds is the passage migrants. Pulau Jarak is clearly not a suitable resting place for the majority of the Charadriiformes that visit the Malayan coasts. So far only the ubiquitous Common Sandpiper, *Actitis*

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[1] The positions of these islands are shown in the map on page 266. The published lists of birds known from them are as follows: Pulau Rumbia, Robinson and Kloss 1922, pp. 255–259, based on collections made by E. Seimund in November and December 1918: One Fathom Bank Lighthouse, idem, pp. 253–255, based on collections made in November 1918 and by E. Seimund in November and December 1919: the Aroa group (mostly Pulau Jemor), Robinson 1906 (pub. 1907), pp. 8–16, based on visits and collections made by the author in August and November 1906. In the case of the Sembilan Islands further records have been added on the strength of unreported material in the Raffles Museum collection, and a visit paid to the group by the present writer in April 1949: *see* also Appendix, pp. 289–298.

—	Pulau Jarak	Sembilan Islands	One Fathom Bank Light[1]	Aroa Islands[2]
Sea Birds (11)				
Breeding Species (5)	—	2	—	4
Local Migrants (5) ..	1	—	2	—
Passage Migrants (3)	2	1	2	1
Vagrants (3) ..	1	1	1	—
Shore Birds (8)				
Breeding Species (3)	2	3	—	3
Local Migrants (3) ..	—	—	1	—
Passage Migrants (5)	1	1	3	2
Vagrants	—	—	—	—
Land Birds (67)				
Residents (8) ..	5	8	—	1
Local Migrants (7) ..	4	5	6	5
Passage Migrants (48)	32	33	36	25
Vagrants (4) ..	1	2	1	—
Totals ..	49	56	52	41

The table above analyses the birds known from Pulau Jarak, the Sembilan Islands, the One Fathom Bank Lighthouse and the Aroa Islands in terms of the number of species recorded from each locality. A table showing the range of each species in the area, as at present reported, is given in the Appendix at the end of this paper.

The figures in brackets after the category headings indicate the number of birds which have been recorded from the four localities as a whole. The sea and shore birds nesting on the islands are shown twice in these figures, once as possible breeding birds and once as non-breeding visitors. Both the Bridled and Roseate Terns, *Sterna anæthetus* and *S. dougallii*, move away from their nesting grounds outside the breeding season, and in this period might easily stray to the vicinity of any of the other islands considered here. *Butorides striatus* is almost certainly resident on Pulau Jarak, the Sembilan Islands and the Aroas, but it can only be a visitor to the One Fathom Bank Lighthouse. Similarly, *Sula leucogaster* apparently nests in the Aroa group, but a solitary example has been taken off Pulau Jarak, where it is clearly not a breeding species.

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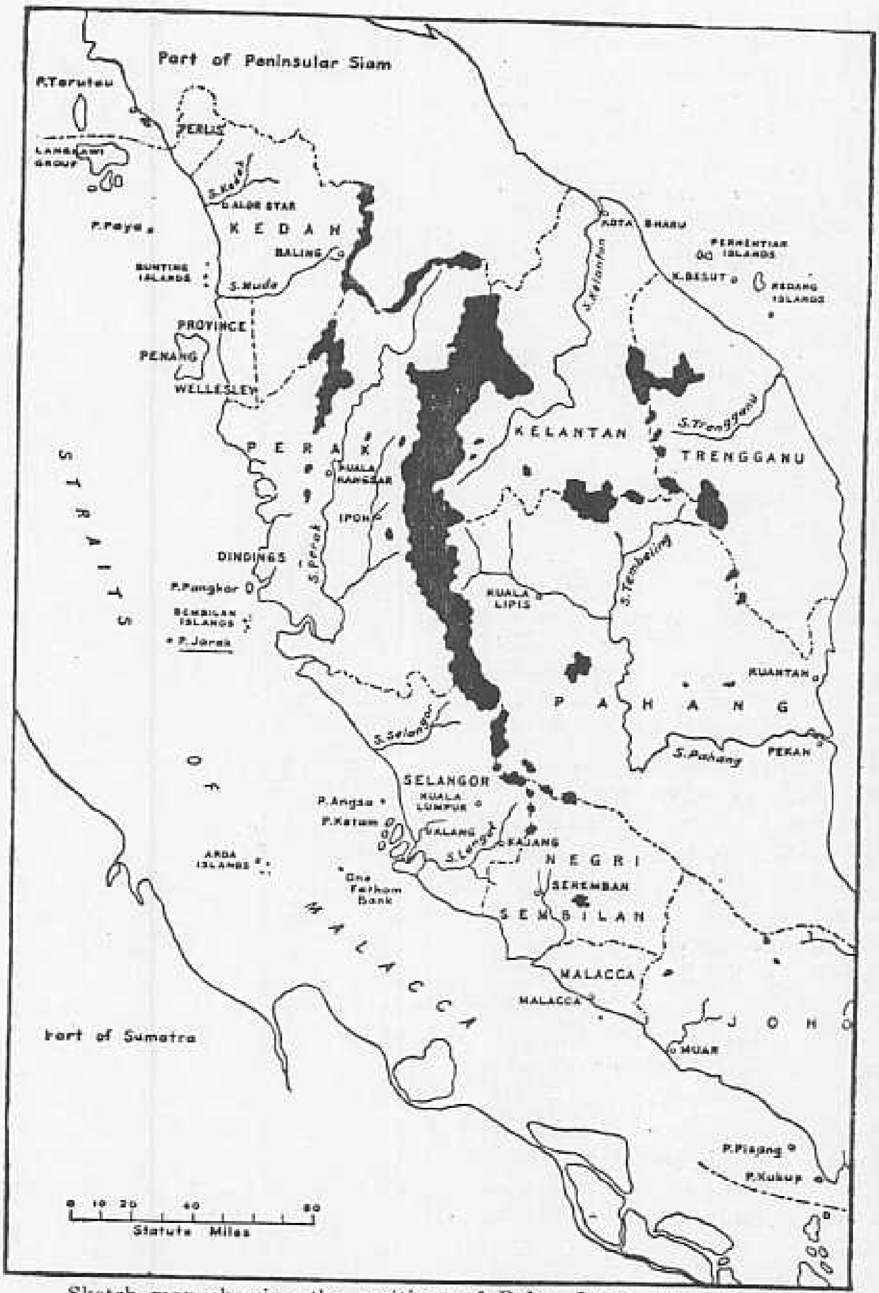
[1] The last entry on the list published by Robinson and Kloss is numbered 51, but there is no No. 33 on it. Presumably this is a printer's error, and the space should have been occupied by *Muscicapa ferruginea* (Hodgs.). The Raffles Museum collection contains three skins (♂ 2, ♀ 1) taken there in November 1918 and 1919, but the species is not shown on their list as it stands. We also have two skins of *Gallicrex cinerea* (Gmel.) taken at the lighthouse on 25 November 1919 which are not listed.

[2] The last entry on Robinson's list of 1906 is numbered 41. It is an unidentified crow which is not recognised here (*see* footnote 1 on page 263). At the same time Robinson overlooked a specimen of *Sterna hirundo longipennis* which is included in the present total, bringing it back to 41.



Sketch map showing the positions of Pulau Jarak (underlined) and the other islands in the Malacca Strait to which reference is made in this paper. The approximate extent of the ground on the mainland above an altitude of about 3,000 feet is shown in black.

hypoleucos, has been recorded there, and it may well be the only one that is reaching Jarak regularly. At the same time the list for the middle section of the Malacca Strait as a whole is undoubtedly too short; other unreported waders must certainly be passing through it during the autumn and spring migrations. In April 1949 we encountered a flock of about twenty Turnstone, *Arenaria interpres*, over open water some 25 miles south of the Sembilan group, though they have not yet been recorded from it.

The Pulau Jarak list contains only five land birds that are likely to be resident there,

Haliæetus leucogaster (Gmelin)
Ducula bicolor (Scopoli)
Caloenas n. nicobarica (Linnaeus)
Halcyon chloris humii Sharpe
Leptocoma jugularis microleuca (Oberholser)

of which one, *Halcyon chloris*, though accepted here may possibly be only a visitor. Evidence of nesting on Jarak has been reported in the case of two of these species, *H. leucogaster* (recorded by Harrison, 1950, *in litt.*) and *C. nicobarica* (Seimund 1919, published in Robinson & Chasen, 1936: 65). The Sembilan Islands, lying 25 miles nearer to the mainland, have 8 resident land birds, while the Pulau Pisang total, which includes a bulbul, a drongo, the Shama, two flowerpeckers and a white-eye, comes to over 20 species. It is also apparent that islands of comparable size south of Singapore have appreciably higher totals than Pulau Jarak or Pulau Rumbia. The Aroas, on the other hand, in spite of what would seem to be a fairly wide range of habitats, can claim only one resident, the White-bellied Sea-Eagle, *Haliæetus leucogaster*, which in many respects is scarcely a land bird.

As a general proposition the number of species of resident land birds occurring on a coastal island in Malayan waters is, as elsewhere, determined largely by the size of the island and the range of habitats on it, and only to a much lesser extent by its distance from the mainland. The avifauna of the small islands between Singapore and the Rhio Archipelago varies directly in proportion to the range of available habitats. So far as we known the medium-sized islands of Pulau Tinggi, Pulau Babi and Pulau Sibu. in the Johore Archipelago, have fewer resident species than the larger but more isolated islands of Aor and Pemanggil. I hope to return to this matter in a later paper. On the other hand this proposition clearly does not apply when one considers the avifauna of Pulau Jarak, the Sembilan Islands or the Aroas with that of Pulau Pisang. Pisang is admittedly larger than the other islands, but its range of habitats is no wider than that of Pulau Jarak, and more restricted than that of the Sembilan group or the Aroas. The solution to this problem so far as Pulau Jarak is concerned is shown clearly by the observations made by Audy, Harrison and Wyatt-Smith (1950, this journal). From their examination of Pulau Jarak early this year they reach the conclusion that its terrestrial biota is largely that of an oceanic as opposed to a coastal island. So also, apparently, is the biota of the Aroa group (see Robinson, 1906: 8–10). The highest point of the Aroas, according to the Malacca Strait Pilot (1946: 164), is only 104 feet above sea level, while Jemor, the largest island in the group rises to only 75 feet. Clearly the Aroas must have been almost completely submerged in late Pleistocenes times, after their last close contact with the adjacent land masses. They have, therefore, been re-colonised as barren islands. On a first examination this should not apply in the case of Pulau Jarak, which reaches an altitude of a little over 500 feet, and is in fact higher than Pulau Pisang (441 feet). The explanation in this case is clearly provided by the observations of Tweedie (1950, this journal), who points out that Pulau Jarak lies almost on the line between the great crater of Toba Meer, in Sumatra, and points in Perak where volcanic ash have been found. It seems most probable, as he suggests, that the wind-born ash denuded both Jarak and the Sembilan Islands of all living organisms at the time of the cataclasmic eruption when the present crater was formed.

In spite of the height of Pulau Jarak, we are, therefore, dealing with an oceanic rather than a coastal fauna. This raises certain most interesting considerations in relation to the land birds now resident on both Jarak and Rumbia. The first three residents on the list above are known to be capable of considerable range of movement, and particularly or exclusively addicted to island breeding sites. They are, therefore, especially likely to colonise an island once it has acquired a sufficient covering of vegetation. The other two species, *Halcyon chloris* and the sunbird *Leptocoma jugularis*, are not birds that one would have at first expected to turn up in such a situation. There is, however, no doubt when one examines the matter further that both are not only prone to colonise islands, but are more likely to do so than the other members of their groups. Among other sources this is shown clearly by the avifauna of Car Nicobar, an island with a surface area of about 55 square miles, lying in the Bay of Bengal between the Andaman and Nicobar groups. All the islands in this area are regarded as truly oceanic. Recently I had an opportunity of making a brief examination of Car Nicobar: the resident avifauna consists of only about 20 species. These include one kingfisher, a race of *Halcyon* *chloris*, and one sunbird, a race of *Leptocoma jugularis*. In addition both *Haliæetus leucogaster* and *Ducula bicolor* are present there. Further, if we examine the three land birds which are apparently resident on the Sembilan Islands but have not yet reached Pulau Jarak, we find that two of them, the Emerald Ground-Dove, *Chalcophaps indica*, and the Glossy Tree-Sterling, *Aplonis panayensis*, also occur in the avifauna of Car Nicobar. It seems, in fact, that the resident avifauna of Pulau Jarak is entirely, and that of the Sembilan Islands very largely, restricted to a few species with a strong tendency to colonise islands, as opposed to those such as the bulbuls and flowerpeckers which are markedly sedentary but can apparently maintain themselves in small numbers in suitable areas when isolated there.

A total of 48 different land birds have been recorded as passage migrants from one or more of the four localities considered here. A further 7 non-breeding species probably arrive from the mainland in the course of local movements outside the breeding season. In each case the One Fathom Bank Lighthouse has the highest individual totals, 36 and 6 respectively. To a considerable extent this must be due to the fact that such birds can be collected more easily at a lighthouse than on a thickly wooded island. There is no reason why the great majority of the recorded species should not ultimately be taken on Pulau Jarak, but we should not necessarily expect to encounter them all there. Two different movements must be occurring at the same time in the Malacca Strait in the autumn months—a coastal flow southwards along the shore of the peninsula, and a passage south-westwards to Sumatra of northern immigrants from out of this coastal stream and of Malayan birds dispersing southwards. Birds taking part in the former movement are unlikely to reach Pulau Jarak regularly, as it lies to the west of what must be their normal course. On the other hand birds passing over to Sumatra could cross almost as easily in the vicinity of Jarak as by way of the One Fathom Bank Lighthouse or the Aroas. Presumably they do so: the passage migrants seemingly most plentiful on Pulau Jarak are nearly all species which reach Sumatra in some numbers.

Several of the passing immigrants[1] recorded from Pulau Jarak are scarce or little known in Malaya, but the majority can be said to belong to one of two groups. The first of these consists of birds which ultimately spread widely over the lowlands of the mainland. In general they are found as far south as Pulau Pisang, and are known from the lowlands of Johore or Singapore Island. The following birds can be said to belong to this category,

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[1] The term is clumsy but it is used here to stress the distinction between birds passing southward by way of the Malacca Strait islands on their way from territories north of the Malay Peninsula, which are immigrants as far as the Malaysian sub-region as a whole is concerned, and Malayan birds making their way from the peninsula to Sumatra. Both are "passage migrants" as far as the islands of the Strait are concerned, but we are concerned with the former only in the present context.

Accipiter virgatus gularis (Temm. & Schleg.)
Falco peregrinus calidus Latham
Cuculus m. micropterus Gould
Eudynamys scolopacea (Linn.) subspp.
Halcyon pileata (Boddært)
Eurystoma orientalis abundus Ripley.
Pitta brachyura cyanoptera Temminck
Pitta sordida cucullata Hartlaub
Dicrurus a. annectans (Hodgson)
Locustella lanceolata (Temminck)
Acrocephalus arundinaceus orientalis (Temm. & Schleg.)
Phylloscopus borealis (Blasius) subspp.
Terpsiphone paradisi incei (Gould)

Accipiter soloensis (Horsfield) should probably be put in this group, but it is less common in Malaya than the preceding species. It seems likely that two others, *Surniculus lugubris dicruroides* (Hodgson) and *Ninox s. scutulata* (Raffles), also come into it, but in this case the picture is clouded by the presence of resident races on the mainland which cannot be distinguished from the immigrants in the field.

The second group is that of the birds which move south along the line of the Malacca Strait and then move inland to high hill country, not to the lowlands. These birds are not, for the most part, known from the mainland of Malaya south of Negri Sembilan, and in most cases they have not been recorded from Pulau Pisang. The majority appear to move both east and west from the region of the Strait, reaching hill country in Sumatra as well as Malaya. In the former case a number move on south by way of the high ground in western Sumatra and so reach the mountains of western Java. A good example of these birds is the Black and Orange Flycatcher, *Muscicapa mugimaki*, which is discussed slightly more fully elsewhere in this journal (pp. 119–121). The following species which have been recorded from Pulau Jarak can be said to fall into this category,

Luscinia c. cyane (Pallas)
Turdus o. obscurus Gmelin
Geokichla sibirica (Pallas) subspp.

Muscicapa cyanomelana cumatilis (Thayer & Bangs)
Muscicapa s. sibirica Gmelin
Muscicapa ferruginea (Hodgson)
Muscicapa l. latirostris Raffles
Muscicapa mugimaki Temminck

Finally it is of interest to draw attention to a small group of birds, represented probably by two species recorded from Pulau Jarak,

Muscicapa narcissina zanthopygia (Hay)
Lanius tigrinus Drapiez

which, so far as present information goes, appear to move north along the line of the Malacca Strait in spring, though they are scarce in this region in the autumn.

An Annotated List of the Birds recorded from Pulau Jarak

The numbers preceding the names of the birds are those given to them in the Malayan Checklist (1949). They are used here to facilitate cross-reference to that and other papers published from the Raffles Museum.

7. **Sula leucogaster plotus** (Forster).

An unsexed adult was caught when it flew under the thwarts of a boat while Robinson was lying off Jarak in December, 1904 (Robinson, 1906: 12). This species is fairly common in the central portion of the Malacca Strait throughout its whole length, and it might be encountered again at any time in the neighbourhood of the island. It breeds in some numbers on Pulau Perak (lat. 5°42′N., long. 98°56′E.), which lies about 135 miles north-west of Pulau Jarak, and there is a second smaller colony nesting on Pulau Tokong, at the south end of the Aroa group, about 85 miles to the south-south-west. The Raffles Museum collection contains six specimens which must have come from one or other of these colonies (taken Langkawi, off the coast of Perak, Pulau Jarak, the Aroa Islands, the One Fathom Bank Lighthouse and Pulau Pisang). These are ascribed here to the form *plotus*, but in all cases the bill is relatively smaller and less robust than in a series of *plotus* taken on Christmas and the Cocos-Keeling Islands (eastern Indian Ocean), and the head and neck more nearly concolourous with the back and wings (see Gibson-Hill, *Bull. Raff. Mus.*, 22, 1950: 237).

15a. **Butorides striatus javanicus** (Horsfield).

Seimund collected three examples on Pulau Jarak in November 1919: the Raffles Museum collection also contains an adult male taken there on 10 April, 1932. The Little Green Heron is widely distributed in coastal regions throughout the Malay Peninsula. On the coast itself it is encountered most frequently in mangrove areas and on muddy beaches, but it also occurs, though less commonly, on coral reefs and rocky shores. It has been taken at the One Fathom Bank Lighthouse, but for the most part it appears to be sedentary in our area. It is almost certain that a few pairs are resident on Pulau Jarak.

22. **Demigretta sacra** (Gmelin).

An adult female in the grey phase was taken in November, 1919, and a male in April 1932. While sailing round the island at the end of January, 1950, Harrison saw 3–6 pairs of egrets which appear to have been of this species. The Reef Heron is plentiful on rocky coasts throughout the whole length of the Malay Peninsula. It is very largely sedentary in our area, and it seems certain that there must be a few pairs resident on Pulau Jarak.

24. **Gorsachius melanolophus melanolophus** (Raffles).

Seimund took four adults (♂ 2, ♀ 2) on Jarak in November 1919. Single examples have also been obtained on Pulau Rumbia and in the Aroa group. In all cases the records are dated November or December. *Melanolophus* is a passage migrant and winter visitor in the Malayan region. It is by no means common, and at the present time it is known only from the west side of the peninsula and the three islands listed above.

28. **Dupetor flavicollis flavicollis** (Latham).

This bird has been taken on Pulau Jarak (♂ 1, ♀ 2), in the Sembilan group (♀ 1), in the Aroas (ad. 1, imm. 1), at the One Fathom Bank Lighthouse (♂ 1, ♀ 4) and on Pulau Pisang (♂ 2, ♀ 3). All the records, except the Pulau Pisang birds (6–15 January 1934), are dated October or November. The Black Bittern again is a passage migrant and winter visitor, known in Malaya only from the west side of the peninsula, the islands of the Malacca Strait and Singapore Island.

50. **Accipiter soloensis** (Horsfield).

Seimund took an adult male on Pulau Jarak in November 1919. Unique examples have also been collected in the Langkawi group, and on Pulau Rumbia and Pulau Pisang, but it is not at present known from the One Fathom Bank Lighthouse or the Aroa Islands. On the mainland it has been taken in the neighbourhood of Kuala Lumpur, at Klang and possibly in the territory of Malacca. It is also known from Singapore Island and there is a good visual record for Kuala Tahan, Pahang (Molesworth, September 1941). This bird is a passage migrant and winter visitor in Malaya, seemingly in small numbers.

52. **Accipiter virgatus gularis** (Temminck & Schlegel).

Seimund took nine examples (♂ 3, ♀ 6) in November 1919: a further three adults were added to the collection in April 1932. This is a passage migrant and winter visitor in Malaya. Judging by the skins in the Raffles Museum it is very plentiful on the islands along the Malacca Strait from October to early December, and again in March and April. Robinson (1906: 12) says that a constant stream of these hawks, mostly immature, was passing over the Aroas during his stay there in November, 1906: presumably they were on their way to Sumatra.

60. **Haliæetus leucogaster** (Gmelin).

Peculiarly enough the Whitebellied Sea-Eagle is not recorded by Robinson & Kloss (1922) from either Pulau Jarak or Pulau Rumbia. It is certainly resident in the Sembilan group, and Harrison reports nesting on Pulau Jarak, late January 1950. It is widely distributed and fairly plentiful along both coasts of the Malay Peninsula, with a preference for the more rocky stretches. The present writer encountered it among all the island groups off the east coast of Malaya in July-August 1948, and in most cases found evidence of nesting. It also occurs widely among the Langkawi Islands and is breeding on Pulau Pisang and on the coasts of the Johore and Singapore Straits.

It is of interest to note that the Brahminy Kite, *Haliastur indus intermedius* Gurney, which is also common along the Malayan coasts, is found only on the larger off-lying islands. It has not been reported from any of the four localities in the centre portion of the Malacca Strait, though it is known from Pulau Pisang. On the east coast of Malaya I found it present in the Pulau Tinggi group, and on Pulau Aor, Tioman and Sri Buat in the south. Further north we encountered it only among the Redang and Perhentian Islands. We did not see it on Pulau Tenggol, a rather more exposed group off Dungun, though the Whitebellied Sea-Eagle was common there.

74. **Falco peregrinus calidus** (Temminck & Schlegel).

Two immature specimens were taken on Pulau Jarak about the middle of April 1932 (♂, 16.4.32; ♀ 20.4.32). Robinson also took examples on the Aroas in November 1906 (♂ 2, ♀ 1) and Seimund a female on Pulau Rumbia on 20 November, 1931. This is a passage migrant and winter visitor to Malaya: there are relatively few formal records, but it certainly occurs widely in small numbers throughout the winter months. It has not yet been reported from Pulau Pisang, but there are several visual records for Singapore Island.

100a. **Amaurornis phœnicurus chinensis** (Boddært).

Seimund took four examples of *phœnicurus chinensis* (♂ 1, ♀ 3) on Jarak in November, but it does not appear to have been seen in January or April. *A. phœnicurus* is the commonest rail on the mainland and the larger islands, occurring fairly widely along the edges of rivers, in the thick vegetation bordering rice-fields, in lalang wastes, light open scrub and even in gardens. Nesting has been reported from several localities. The race *chinensis* is resident in the peninsula south to about the latitude of Malacca, where its place is taken by the Javanese form *javanica* (Horsfield) which is indistinguishable from it in the field. There is no doubt that the local birds migrate outside the breeding season, and it seems probable that there is also an influx of winter visitors of the northern race. Neither Pulau Jarak nor Pulau Pisang and the One Fathom Bank Lighthouse, from which *phœnicurus* has also been recorded, provide suitable breeding quarters, and it must be listed as a winter visitor to these places. The proportion of birds from further north among these visitors cannot be determined on present data, but it seems probable that the majority are birds moving locally from the adjacent mainland. It may be noted that this species has not yet been reported from the Sembilan Islands, though it must certainly be reaching the group at least during the period October to December.

128. **Actitis hypoleucos** (Linnaeus).

Seimund took an adult male on Pulau Jarak in November 1919: the collectors in April 1932 took two females on 10 April, but there is no record to show whether or not they saw further specimens during the latter part of their stay on the island. The Common Sandpiper occurs very widely, usually singly or in small parties, in the neighbourhood of water of all kinds throughout the length of the peninsula and presumably on all the off-lying islands. The first-comers normally reach Malaya in August, with the main body following in September: the majority leave in March, but this species is by no means uncommon during the early part of April. The last dates at present recorded are 23–27 April for southern Perak and 21 April to 2 May for Kelantan (Young, *Malayan Nat. Journ.*, 1, 1941: 153).

151. **Sterna hirundo longipennis** (Nordmann).

This is largely a winter visitor to the Malacca Strait, but some birds also pass through this region to areas further south. The great majority of the records lie between September and April, but we have one bird taken at the end of July, and another taken off Penang on 27 May: probably a few spend their first summer here. In general Nordmann's Tern keeps to bluer water, nearer to the centre portion of the Malacca Strait, than the other species wintering here. It is accordingly known from Jarak, the Aroas and the One Fathom Bank Lighthouse. It has also been reported from the Sembilan Isles and Pulau Angsa, but not Pulau Pisang, nor is it yet known to penetrate far into the Singapore Strait. In a coastal voyage up the Malacca Strait at the beginning of April we encountered a small number of these terns about 10 miles south-west of Pulau Pisang, and then did not see any again until we were running up over deeper water south-west of Pangkor.

157. **Thalasseus bengalensis bengalensis** (Lesson).

An adult male was taken on or near the island in April, 1932. This bird is a passage migrant and winter visitor to the Malacca Strait, where it occurs sparingly in waters a short distance off the coast, and in the larger estuaries, from late August to April or early May. It has not been recorded from Pulau Pisang, but it certainly enters the Singapore Strait, where it appears to be about one quarter as plentiful as *T. bergii cristatus* (Stephens).

158. **Anoüs stolidus pileatus** (Scopoli).

Seimund took a nearly adult male close to Pulau Jarak on 16 November 1919. This is the fifth formal record of the occurrence of the Common Noddy in the Malacca Strait. No further examples have been taken in this area, but Madoc (*in litt.*) says that he saw several birds off the Langkawi Islands about May 1940. The Noddy seems to be only a casual visitor to the Malacca Strait, though the data available suggest that there is an unrecorded breeding ground somewhere in or near the eastern side of the Bay of Bengal (*see* Gibson-Hill, 1950:   ); it is known to nest on Barren Island, north of the Tambelan group, but it has never been reported from the waters round Singapore. Pulau Jarak is the most southerly point that it is known to have reached in the Malacca Strait.

170. **Ducula bicolor** (Scopoli).

D. bicolor was seen on Pulau Jarak by Robinson in December 1904: it was taken by Seimund (♂ 2) in November 1919, and by the Selangor Museum collectors (♂ 1, ♀ 1) in April 1932. Harrison (1950) says that it was very plentiful on the island at the end of January 1950. It occurs widely on both coasts of the Malay Peninsula, and on the majority of the smaller off-lying islands, from Johore to northern Perak and Trengganu. It undertakes local movements outside the breeding season, but there can be no doubt that it is nesting on Pulau Jarak.

178. **Caloenas nicobarica nicobarica** (Linnaeus).

Two adults (♂ 1, ♀ 1) were taken on Pulau Jarak by Seimund in November 1919, and one unsexed adult by the party in April 1932. It was apparently seen, but not collected, in January 1950. The Nicobar Pigeon is normally strictly confined to small islands. On the west side of Malaya it has also been recorded from Langkawi, Pulau Rumbia and Pulau Pisang. Seimund reported that it was breeding on Pulau Jarak in November 1919 (Robinson & Chasen, Birds Malay Peninsula, 3, 1936: 65).

186. **Cuculus micropterus micropterus** Gould.

Seimund took an adult female on Pulau Jarak in November, 1919. This bird has also been reported from Pulau Rumbia, the Aroas, the One Fathom Bank Lighthouse and Pulau Pisang. It is a widespread, though probably not common, resident in the lowlands of the Malay States. In addition, in the western coastal districts at least, the local birds are augmented by a varying number of winter visitors. The examples found on the off-lying islands almost certainly come from this source.

196a. **Surniculus lugubris dicruroides** (Hodgson).

An adult male was taken on Jarak in April, 1932. This bird again has been reported from the other localities in the middle section of the Malacca Strait and from Pulau Pisang. As in the case of *Cuculus micropterus* above, Malaya has a resident population in the lowlands augmented by passage migrants and winter visitors, but here the two groups are racially distinct. There is accordingly no doubt that the examples taken on the Malacca Strait islands are visiting birds from the north, and not Malayan birds migrating locally.

197. **Eudynamys scolopacea** (Linnaeus) subspp.

Adults were taken on Pulau Jarak in March 1906 (♀ 2), by Seimund in November 1919 (♂ 2), by the Selangor Museum collectors in April 1932 (♀ 3) and by Harrison in January 1950. This bird is very plentiful, as a passage migrant and winter visitor, on the coasts and small islands of the Malacca Strait from late September or early October to March: small numbers seemingly remain on through April, but there are no records for the summer months south of Kedah and northern Kelantan. Examples of both the races known from Malaya (the typical race and *E. s. malayana* Cabanis & Heine) have been taken on Jarak, the Sembilan Islands and Pulau Pisang. Chasen (1935: 128) ascribes all Malaysian records except some birds from the Malay Peninsula and two from the South Natuna Islands, to *E. s. malayana*. This can hardly be correct. The latter is certainly the commoner of the two forms on the mainland of the peninsula, but this does not seem to apply in the case of collections from the Malacca Strait islands. The Raffles Museum now has 28 adult female skins from this area. They exhibit a wide range of measurement, and vary in colour from a dark glossy umber brown with pale rufous-buff markings to a glossy brown-black with pure white markings. There is an almost complete sequence between the two extremes. Nevertheless, in pattern and colour at least, it is possible to divide the collection into two series, even though they approach each other closely at one point. This division sets them out as follows,

E. s. malayana Cabanis and Heine.

Underparts with a marked buffy wash over the pale markings: the spots on the upperparts small and largely or wholely washed with buff or light rufous. In the birds in this series the wing flat ranges from 202–239 mm., the tarsus 37–39 mm. and the exposed culmen 30–33·5 mm. 11 examples.

Locality and date of collection		*Tail*	*Wing Flat*	*Tarsus*	*Exposed Culmen*
Pulau Jarak,	8. 4.32	188	211	38	32
Pulau Rumbia,	14.11.18	180	207	38·5	31
	17.11.18	193	209	37·5	31
	18.11.18	182	202	38	31
	26.11.18	202	215	38	32
	1.12.18	199	214	37	30
	5.12.18	199	239	38	33·5
	5.12.18	190	208	37·5	32
	5.12.18	177	216	37·5	31
Pulau Lalang,	15.11.11	185	203	38·5	33
Pulau Pisang,	26. 1.34	198	215	39	33

E. s. scolopacea (Linnaeus).

With little or no buffy wash on the underparts: spots on the upperparts more prominent and white, except in some cases those on the forehead. In the birds in this series the wing flat ranges from 187–206 mm., the tarsus 35–38 mm. and the exposed clumen 27–31 mm. 17 examples.

Locality and date of collection		*Tail*	*Wing Flat*	*Tarsus*	*Exposed Culmen*
Pulau Jarak,	14. 3.06	176	187	35	28
	14. 3.06	196	200	37	29
	8. 4.32	182	203	36	27
	15. 4.32	186	201	37	31
Pulau Rumbia,	18. 1.15	192	192	38	29·5
	18.11.18	179	197	36	29·5
	21.11.18	183	206	36·5	30
Pulau Pisang,	1. 4.21	185	203	36·5	29
	5.12.30	192	199	36	29
	5.12.30	199	199	37	31
	5.12.30	188	201	38	29
	7.12.30	190	195	38	29·5
	8.12.47	180	192	35	28
	9.12.47	180	185	36	29·5
	16.12.47	202	207	37·5	30
	19.12.47	185	192	36·5	29
	23.12.47	197	195	38	29

Some of the larger birds in the first section (*malayana*) have the pale spots both above and below very richly coloured, while in others these are only lightly washed with buff.[1] Nevertheless this series appears to be more homogeneous than the second one. Here some of the birds have rather small spots above, with the forehead streaked with rufous and the pale areas below very lightly washed with buff, while in others the spots above are much larger, with the streaks on the forehead white and no suggestion of any buff on the white markings beneath. Possibly this section contains some examples of the form *chinensis* Cabanis & Heine, to which Deignan (*Bull. U.S. Nat. Mus.*, 186, 1945: 166–7) refers all his birds from northern Siam. Apart from this consideration, two points emerge from the examination of this material. One is that the majority of the birds must be coming from a region, presumably Burma or Tenasserim, where the two forms (*malayana* and *scolopacea*) intergrade, and secondly that more than half the examples coming down the Malacca Strait route (17 out of 28 on the analysis above) are not *E. s. malayana*. If the latter contention holds good, since they must be passing on to somewhere south of Malaya, at least the typical race and possibly also the form *chinensis* must be occurring in Sumatra and Java. Support is lent to this point by the fact that a female sent to me early this year from Singkep, in the Lingga Archipelago, though slightly on the large side (wing flat 206 mm., tarsus 37·5 mm., exposed culmen 30·5 mm.), has prominent white spots above and no hint of a buffy wash on the underparts. Unfortunately the Raffles Museum collection has no adult female skins from any of the Sunda islands, except for examples of *malayana* from the Mentawi group.

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[1] Ripley (*Auk*, 63, 1946: 241) has recently described a new race, *dolosa*, from the Andamans, representatives of which might, presumably, be included among the specimens listed above as *malayana*, if *dolosa* is valid. The latter point would seem to be questionable in view of the great individual variation displayed in *Eudynamys* and its undoubted mobility in this part of the world. The mobility of some south-east Asia birds is a consideration which appears to be overlooked by systematists working far from here. Dr. Abbott's birds from the Andamans (from which the type of *dolosa* was selected) were taken in the winter months; they cannot for certain be said to represent the resident population in that area, and in fact probably include at least a proportion of birds from western Burma (*scolopacea* → *malayana*): there is undoubtedly a migratory path along the line from Cape Negrais by way of the Andaman and Nicobar Islands to Pulau Wai and Achin. Ripley's definition of *dolosa*, when pruned of its inessentials, amounts to like *malayana* or slightly darker in the female, but with a smaller wing-tail index (90–91 per cent against 95–100 per cent), the latter calculated on a series of seven specimens (♂ 3, ♀ 4). The Nicobar birds examined by Ripley run higher, 93–94 per cent on a series of seven (♂ 4, ♀ 3). They thus approach the 95–100 per cent and the over 95 per cent quoted for *malayana* and typical *scolopacea*, but the author nevertheless attributes them to *dolosa*. The new race therefore has an admitted range of 90–94 per cent, and the deciding factor in separating it from the other two becomes reduced to a wing-tail ratio above or below 95 per cent. This would be admirable if it were not for the considerable individual variation among these birds. Personally I am not satisfied that the figures for a reasonable series of winter examples of *malayana* and typical *scolopacea* inevitably lie above 95 per cent. If it be taken that they do we have examples of *dolosa* in both the white and buff-rufous spotted forms above from the Malacca Strait region! What is undoubtedly needed, if the taxonomics of the Koel are ever to be reasonably clear, is an examination of all known specimens at some single institution, together with a number more from its northern breeding grounds. If this were done I think that both *dolosa* Ripley and *simalurensis* Junge, another slender migration route form, would disappear.

212. **Otus scops malayanus** (Hay).

Seimund took an adult male on Pulau Jarak in November 1919. Unique females are also reported from the Sembilan Islands and the One Fathom Bank Lighthouse. This bird is resident in parts at least of the lowlands of the Malay States. Nevertheless the majority of the formal records for Malaya are from the islands of the Malacca Strait, and dated between October and March. It seems fairly certain that during this period the local birds are augmented by winter visitors from Peninsular Siam, or there are local movements within the Malayan region.

219a. **Ninox scutulata scutulata** (Raffles).

Seimund took six examples (♂ 2, ♀ 4) on Jarak in November, 1919. The Raffles Museum collection also contains two specimens taken on the island in December 1912. This, the typical race of *Ninox scutulata*, is known in Malaya only from the Selangor mountains and the islands in the Malacca Strait. All the dated records run from October to February inclusive, and there would seem to be no doubt that it is a passage migrant and winter visitor in this region. As in the case of the Drongo-Cuckoo, *Surniculus lugubris*, there is also a resident race, *N. scutulata malaccensis* (Eyton), which occurs fairly widely through the lowlands of the mainland, to an altitude of about 2,000 feet; it has not yet been reported from any of the islands except those of Langkawi, Penang and Singapore.

228. **Caprimulgus indicus jotaka** (Temminck & Schlegel).

Seimund took an adult female on Pulau Jarak in November 1919. This is a passage migrant and winter visitor in Malaya, occurring in small numbers along the line of the Malacca Strait and in the central mountains. The Raffles Museum possesses specimens from the majority of the islands visited by collectors from the Langkawi group south to Pulau Pisang[1], two from coastal districts in Perlis and Perak, and one from the Semangko Pass.

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[1] I unfortunately overlooked the Pulau Pisang skin when compiling the Malayan Checklist, in spite of the fact that it was part of a collection made for me by R. K. S. Charles in December 1947.

250. Alcedo atthis bengalensis Gmelin.

An adult female was taken on Pulau Jarak in March 1906: it may be remarked that this visit, which must have been very short, yielded only a few skins, all of which were ignored by Robinson & Kloss when they compiled the 1922 list. The only other record for *Alcedo atthis* from the centre section of the Malacca Strait is an immature male taken by Seimund on Pulau Rumbia on 2 December, 1918. Further south we have four skins from Pulau Pisang (♂ 2, ♀ 2, taken 8 and 9 December, 1930): *atthis* has also been taken on Pulau Paya, off the cost of Kedah (♂ 1, 25 April, 1915). It is, of course, known from the islands of Langkawi, Penang, Singapore, Ubin and Tekong, and on the east side of the peninsula, Pulau Tioman and Redang, on all of which it is probably resident in small numbers. In the coastal regions of Malaya at least it is appreciably more plentiful in the period from October to March than it is during the remainder of the year. This is especially noticeable in the mangrove zone at the southern end of the peninsula and on Singapore Island. Either the residents are augmented by winter visitors, or there is a large-scale drift of local birds to the adjacent coastal districts outside the breeding season. Probably both movements take place. At the same time it is of interest to note that there is no evidence of a mass migration southwards along the line of the Malacca Strait, such as occurs in the case of a number of our winter visitors. In this respect the behaviour of the present species is seemingly different from that of the next, *Ceyx erithacus*, which has been reported from all the localities in the centre portion of the Malacca Strai[illegible] including 12 skins from the One Fathom Bank Lighthouse (November and December).

253. Ceyx erithacus erithacus (Linnaeus).

An adult female was taken on Pulau Jarak by Seimund's collector on 13 April, 1932; there does not appear to be any other record for the island. *Ceyx erithacus* is resident on the mainland where it occurs widely but sparsely throughout the lowland and submontane regions of the peninsula, to an altitude of about 3,000 feet. It is usually found in wooded country where running water is present. It is probable that it also nests on Langkawi and Penang Islands, but here, as elsewhere, it is much less numerous, as a resident bird, than *Alcedo atthis*. On the other hand the present species has been reported from all the Malacca Strait localities under consideration in this paper, in all cases between October and December or in April. The Raffles Museum collection also contains two skins (♂ 1, ♀ 1) taken on Pulau Angsa, off the Selangor coast, on 17 October, 1926. Apparently there is a fairly considerable passage of these birds along or across the Malacca Strait in the autumn and spring. This may be a seasonal shift of birds breeding in the peninsula or a large-scale migration of individuals from further north. On the mainland this species is not appreciably more numerous during the winter months, though it occasionally turns up on Singapore Island in this period. There cannot be a large influx of visitors in any way comparable to the numbers that are apparently making their way along the line of the Strait. It is possible that two distinct movements are taking place, a local shift within the country of part of the resident population, and the passage southward past Malaya of birds from areas further north.

258a. **Halcyon coromanda coromanda** (Latham).

Seimund took nine skins of this bird (♂ 6, ♀ 3) on Pulau Jarak in November 1919, and a single unsexed example was collected there on 15 April, 1932. The present race of the Ruddy Kingfisher is resident on the mainland of the peninsula as far south as northern Johore, where it is replaced by a darker form, *H. c. minor* (Temminck & Schlegal). It is found mostly in the mangrove and casuarina zones on the coast, and to a lesser extent on the mangrove-flanked stretches of the rivers. It is shyer than the other Malayan species of *Halcyon*, but probably fairly common in suitable localities. The records from the small islands of the Malacca Strait suggest extensive movements in this area, as in the case of *Ceyx erithacus*. The difference is that in this instance it seems most likely that we are dealing largely with the passage of birds from further north along the line of the Strait. There is little to suggest that the local examples of *coromanda* move far. No specimens of the paler northern race have yet been reported from the tip of the peninsula or the islands immediately south of it. If any appreciable local movements were taking place one would expect birds from the coasts of central Malaya at least to make their way down to southern Johore and its off-lying islands in recordable numbers. On the other hand, as noted elsewhere (Gibson-Hill, 1950*a*: 135), the main stream of south-bound passage migrants apparently keeps further west, and only occasional strays from it reach the neighbourhood of Singapore Island.

260. **Halcyon pileata** (Boddært).

Seimund took two males on Jarak in November 1919. This is a passage migrant and winter visitor in Malaya, largely confined to coastal districts, the larger rivers and padi-land. It is widely distributed and fairly common in suitable localities, and has been recorded from the majority of the off-lying islands. We even found it present on Pulau Perak in April 1949.

261. **Halcyon chloris humii** Sharpe.

A solitary male was taken on Pulau Jarak in April 1932: this species also appears to have been seen by the party on the island in January 1950. It is resident in Malaya, where it is largely confined to estuaries, and to the seashore and its immediate vicinity. It is assumed in the table at the beginning of this paper that it is breeding on Pulau Jarak, as there is little indication of local seasonal movements on the mainland. At the same time it should be pointed out that in general it seems to favour rather more sheltered islands and muddier coasts, and that it is relatively scarce among the deep-water islands in the Johore-Pahang Archipelago.

268b. **Eurystomus orientalis abundus** Ripley.

An adult female of the present form was taken on Jarak in April 1932; seemingly it is the only record of the occurrence of *Eurystomus orientalis* (Linnaeus) on the island. Two races of this species are known from Malaya. One, the typical race, which is resident here, is fairly widely distributed in wooded lowland country throughout the mainland and on the majority of the larger off-lying islands. During the autumn and winter months the local birds are augmented by immigrants, presumably from the Indo-Burmese countries and Peninsular Siam, and by members of a second race, *E. o. abundus* Ripley from China. In this period, roughly from early October to the beginning of April, the Broadbilled Roller is noticeably more plentiful on the mainland, and it occurs in some numbers, at least during the transit months, on the smaller islands of the Malacca Strait. Some of the Malacca Strait specimens recorded by Robinson & Kloss (1922, *passim*) are no longer in the Raffles Museum collection. From an examination of those that remain *abundus* appears to be about twice as plentiful as *orientalis* in this region during the migratory periods. The extent skins show three examples of the latter (Aroas ♀ 2; Rumbia ♀ 1) and six of *abundus* (Aroas ♂ 2, ♀ 2; Rumbia ♂ 1, ex. 1) from the islands of the middle section. Both forms are also known from Pulau Pisang; there again *abundus* (♂ 6, ♀ 2) is apparently more numerous than the typical *orientalis* (♂ 2, ♀ 1). Clearly there is an important stream of the northern form along the line of the Malacca Strait; with it also go smaller numbers or *orientalis*. According to Chasen (1935: 97) both races are known from practically the whole of the Malaysian sub-region. The only records of nesting in this area that I can trace are for Malaya, Perak (Edgar) and without precise localities (Madoc).

328. **Pitta brachyura cyanoptera** Temminck.

Seimund took a male on Pulau Jarak in November 1919, and ♂ 1, ♀ 1 were taken there on 12 April, 1932. This species has also been recorded from the other localities in the middle section of the Malacca Strait and from Pulau Pisang. It is a passage migrant and winter visitor in Malaya. On the west side it appears first in the coastal districts and on the islands; subsequently the majority of the visitors move inland to lowland jungle and scrub. It seems to be fairly plentiful in normal years in the region of the Malacca Strait from October to December. Smaller numbers apparently remain until April and it has been taken as late as 21–23 April (Pulau Paya, off Kedah, ♂ 3) and 30 April (one Fathom Light, ♀ 1, taken by one of the lightkeepers).

330. **Pitta sordida cucullata** Hartlaub.

This is one of the species omitted from the list of 1922, though Robinson took an adult male on Jarak in December 1904: subsequently two birds were collected there in 1932 (♂ 12.4.32, ♀ 3.5.32). The Raffles Museum collection also contains specimens from the Sembilan group, the Lighthouse at Kuala Selangor (1 ♂, 27.10.35, *Madoc*), Pulau Jemor in the Aroa group, the One Fathom Bank Lighthouse and Pulau Pisang (1 ♂, 1 ♀, 15.1.34). The dates range from 27 October (*Madoc*, Kuala Selangor) to 7 May (*Kloss*, Pulau Rumbia), with 17 out of the 21 specimens taken between November and January. *P. sordida* is fairly widely distributed as a resident species in dense lowland jungle in Perlis, Kedah and Province Wellesly; it also breeds, in small numbers, in Perak. Further south it is known only as a winter visitor. Immigrants are by no means uncommon, but as a whole this species is less plentiful than *P. brachyura* on the mainland. Judging by the material in the Raffles Museum collection the two forms visit the islands of the Malacca Strait area in more nearly equal numbers.

346. **Dicrurus annectans annectans** (Hodgson).

Seimund took eight specimens (♂ 7, ♀ 1) on Jarak in November 1919. This species was also found to be present on the island in 1932, when it was collected as late as 19 April. It is a passage migrant and winter visitor to Malaya, occuring mostly in the coastal districts, where it is fairly common from October to early April. It is also known from the majority of the off-lying islands, including Pulau Pisang, but it has not yet been reported from the Sembilan group.

446. **Luscinia cyane cyane** (Pallas).

Seimund took three males on Pulau Jarak in November 1919: in addition an adult male was taken there on 3 May, 1932. This again is a passage migrant and winter visitor. It arrives in Malaya from late September onwards, and from then until

December occurs mostly on the coast of the mainland and on the smaller off-lying islands. Later it moves inland, to altitudes of from 2,500 to 4,000 feet along the main mountain range where it remains, in the northern Malay States at least, until the end of April. All the records from localities in the Malacca Strait (Langkawi, Pulau Paya, Jarak, Pulau Lalang, One Fathom Bank and the Aroas) are dated October–December, except for the single Jarak skin noted above.

457a. **Monticola solitaria pandoo** (Sykes).

An adult female of a *M. solitaria* subsp. was taken on Pulau Jarak in November 1919. Robinson & Kloss (1922: 260) ascribe it to the eastern race, *philippensis* (P.L.S. Müller). The specimen is not in the Raffles Museum collection, but it is listed provisionally here under the name of the Indian form, *M. s. pandoo*. The bulk of the population of *philippensis* migrates and winters east of Siam, and there are few authentic records of it for that country. *Pandoo*, on the other hand, is generally distributed over Siam proper, and the only skin of an immigrant *solitaria* available in the Raffles Museum collection (taken on Pulau Paya, off the coast of Kedah) is an example of *pandoo*.

458. **Turdus obscurus obscurus** Gmelin.

An adult male was taken on Pulau Jarak in December 1904, but this bird does not appear to have been recorded from the island subsequently. It is a passage migrant and winter visitor in Malaya, arriving in some numbers on the coast and small islands of the Malacca Strait in October and November, and moving thence about December to high mountain country, where it remains until March or early April.

460. **Geokichla sibirica** (Pallas) subspp.

Two races of this bird occur in Malaya, the typical race and *G. s. davisoni* (Hume). Like the preceding species they appear first on the coast and small islands of the Malacca Strait and subsequently make their way to high country on the mainland, where they remain until March or April. The Raffles Museum collection contains about fifty local skins (mostly taken on Pulau Jarak, Pulau Rumbia and the One Fathom Bank Lighthouse), but the majority are females and immature males, and therefore difficult to define subspecifically. Accordingly no precise attempt has been made to assess exactly the relative numbers of the two races. It is of interest to note that this species, like some of the winter visitors that follow, has not been recorded from the Aroa Islands or Pulau Pisang. Presumably though occasional strays may be reaching the latter localities the great majority of the immigrants make their way east or west into high hill country before they have reached the extremity of the Malacca Strait.

471. **Locustella lanceolata** (Temminck).

Seimund took six examples (♂ 4, ♀ 2) on Pulau Jarak in November 1919. Harrison collected a single skin on the island at the end of January 1950. This bird has also been taken on Pulau Rumbia, at the One Fathom Bank Lighthouse, in the Aroas and on Pulau Pisang. It is a passage migrant and winter visitor in Malaya, arriving in the Malacca Strait area about October, and subsequently making its way to the mainland, where it is widely distributed and in parts plentiful, mostly in swampy country, until March. It is of interest to note that this species, which is found largely in the lowlands when it reaches the mainland, is common in the Malacca Strait region as far south as Pulau Pisang. On the other hand birds like the preceding species, which normally occur in high hill country on the mainland, are much scarcer in the southern part of the Strait in the autumn months.

472. **Acrocephalus arundinaceus orientalis** (Temminck & Schlegel).

This species is not listed by Robinson & Kloss (1922), but the Raffles Museum collection contains a specimen said to have been taken on Pulau Jarak in November 1919. It occurs in Malaya as a passage migrant and winter visitor. Like *Locustella lanceolata* it appears first in the area of the Malacca Strait and subsequently makes its way largely to lowland country on the mainland, where it remains until March or April. It again has been reported as far south as Pulau Pisang, though it does not yet appear to have been taken in the Sembilan group or on the Aroas.

474. **Phylloscopus borealis** (Blasius) subspp.

This species is similar in its behaviour to the two preceding birds, except that it reaches Malaya rather earlier, the first arrivals appearing on the coastal islands as early as the end of August, with the main body coming during the second half of October and in November. It seems probable that two forms are present in roughly equal numbers in the population reaching Malaya, the typical race from northern Asia and *P. b. kennicotti* (Baird) from Alaska. The point is discussed by the present writer earlier in this journal (pp. 77–81). If *kennicotti* is valid it is represented in the skins (♂ 6, ♀ 2) taken by Seimund on Pulau Jarak in November 1919.

490. **Muscicapa cyanomelana cumatilis** (Thayer & Bangs).

Seimund is said to have taken an adult male on Pulau Jarak in November 1919. The published records also show single specimens from Pulau Rumbia (♀ 1) and the One Fathom Bank Lighthouse (♂ 1). Robinson (Birds Malay Peninsula, 2, 1928: 144) says that this species occurs in some years in fair numbers on the coasts and islands of the Malacca Strait. Possibly it behaves in a manner similar to *Geokichla sibirica* and certain of the species that follow, passing from the region of the Strait to high country, and not normally running south as far as its southern end, but it does not appear to be at all common in Malaya. The Raffles Museum collection contains only two localised specimens from the peninsula (Bukit Kutu, Selangor, December 1898, and Pulau Terutau, north of the Langkawi group, March 1909).

492. **Muscicapa sibirica sibirica** Gmelin.

An adult male was taken on Pulau Jarak in November 1919, but, presumably through an over-sight, the record does not appear in the 1922 list. This bird is largely a passage migrant in Malaya, but some birds remain through the winter months. During this period they are mostly found in high hill country, while in November and December, and again in April, *sibirica* is by no means uncommon in the region of the Malacca Strait. It has been taken in the autumn in the Sembilan Islands and at the One Fathom Bank Lighthouse, but it has not yet been recorded from Singapore Island.

493. **Muscicapa ferruginea** (Hodgson).

Seimund took two specimens (♂ 1, ♀ 1) on Pulau Jarak in November 1919; one male and one female were also taken there on 19 and 8 April 1932. This is another passage migrant and winter visitor in Malaya which seemingly comes south down the region of the Malacca Strait and then normally moves east or west into high hill country before or about the latitude of Negri Sembilan. It has been taken once on Pulau Pisang, but it is not known formally from the mainland of the peninsula south of Gunong Angsi, alt. 2,000 feet (*Chasen*).

494. **Muscicapa latirostris latirostris** Raffles.

Seimund took two adult males on Pulau Jarak in November 1919. This bird, which has not been reported from Pulau Pisang, appears to behave in much the same manner as the preceding two flycatchers, except that it makes a rather longer stay in the lowlands on its way across from the Malacca Strait area to the high country in the centre of the peninsula.

505. **Muscicapa mugimaki** Temminck.

Two adults of this species were taken on Pulau Jarak on 15 April 1932. Its distribution in Malaysia is discussed in some detail by the present writer in this journal, pages 119–121. In general it can be said that in Malaya it behaves in much the same manner as the preceding three species.

507. **Muscicapa narcissina zanthopygia** (Hay).

An adult male was taken on Pulau Jarak on 13 April 1932. This is a rather scarce passage migrant and winter visitor in the Malayan region about which relatively little is known. Only six dated records are at present available. Four of these (Cheras, Selangor, 17 March; Alor Star, Kedah, 8 April; Pulau Jarak, 13 April; Tanjong Tuan, Negri Sembilan, 15 April) are late spring records for the Malacca Strait area. The other two, a brace of females taken at the One Fathom Bank Lighthouse in November 1918, are autumn ones. The material is certainly insufficient for a final conclusion to be reached, but it is possible that this species varies the normal procedure by making its way north along the line of the Malacca Strait in the spring in greater numbers than it travels south by it in the autumn.

510. **Rhinomyias brunneata** (H. H. Slater).

Three adults were taken on Pulau Jarak 10–16 April, 1932. This bird appears to occur only as a passage migrant in Malaya. Four other specimens have been taken here; three at the One Fathom Bank Lighthouse in November 1918, and one on Gunong Tampin, Negri Sembilan, on 13 September 1913.

515c. **Terpsiphone paradisi incei** (Gould).

An adult male of this form was taken on Jarak on 14 April 1932, and two females on 19 April: the adult male is in fine plumage, with the longest tail-feather reaching 374 mm. The Chinese Paradise Flycatcher is fairly plentiful throughout the lowlands of the Malay States during the winter months, arriving in September or October and leaving in April. It also reaches Sumatra and the islands south of Singapore, as may be gathered from its apparent passage along the line of the Malacca Strait, but it has not yet been reported from Java. It has been taken at the other three localities under consideration here (the Sembilan Islands, the Aroas and the One Fathom Bank Lighthouse), and also on Pulau Pisang, in all cases between October and December. The Jarak birds are the only spring records for this area.

516. **Terpsiphone atrocaudata atrocaudata** (Eyton).

Seimund took two immature males on Pulau Jarak in November 1919: in addition an immature male was taken on the island on 9 April 1932. This bird is apparently a passage migrant and winter visitor to Malaya, occurring only in small or very small numbers down the west side of the area. It has been taken at the One Fathom Bank Lighthouse in November (♂ 1, ♀ 1), but it is not at present known from the Sembilan Islands, the Aroas or Pulau Pisang. The most southerly authentic records for the mainland would seem to be in Selangor.[1] It is possible that the majority of the members of this species reaching the northern half of the Malacca Strait normally move westwards to Sumatra, and that it winters there rather than in Malaya.

525. **Lanius tigrinus** Drapiez.

Five skins were taken on Pulau Jarak, 17–20 April 1932, although this species had not been recorded in the earlier collections made on the island. It occurs in Malaya as a passage migrant and winter visitor. The birds mostly reach the Malay States in September and October, and leave in April. The earliest records for the islands of the Malacca Strait are two immature males taken at the One Fathom Bank Lighthouse and on Pulau Pisang, both at the beginning of December. A general consideration of over forty localised and dated skins in the Raffles Museum collection suggests that this bird reverses the usual routine, reaching the Malay States overland and leaving by way of the Malacca Strait.

541a. **Leptocoma jugularis microleuca** (Oberholser).

An adult male was taken on Pulau Jarak in April 1932. This bird has also been recorded from Pulau Rumbia and Pulau Pisang. It seems probable that it is resident in all three localities.

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[1] The Raffles Museum collection also contains three old skins labelled "Malacca?, 1884?". These are apparently trade skins, and though purchased in Malacca they could easily have come from Sumatra, in the first place. It is, perhaps, of interest to note that the nearly related Chinese Paradise Flycatcher, *Terpsiphone paradisi incei* (Gould), which is fairly plentiful throughout the lowlands of the Malay States during the winter months, has been recorded from the other three localities in the middle section of the Malacca Strait, but not from Pulau Jarak. It is also known from Pulau Pisang. Presumably it follows the pattern of *Phylloscopus borealis* and certain of the other warblers.

Appendix

Birds reported from Pulau Jarak and other points in the middle section of the Malacca Strait

The following table has been drawn up to show the birds at present known with certainty from Pulau Jarak, the Sembilan Islands, the One Fathom Bank and the Aroa Islands. These cover the principal points at which collecting has been done in the middle section of the Malacca Strait. In addition a small number of specimens are known from Pulau Angsa and Pulau Ketam, lying off the Selangor coast between the mouths of the Klang and Selangor Rivers, which are not entered in this table. The numbers preceding the names of the birds are those given to them in the Malayan Checklist (1949): unless otherwise noted the checklist names are used here.

The lists are based initially on the published records: Jarak (Robinson and Kloss, 1922: 259–60), Sembilan Islands, Pulau Rumbia (Robinson and Kloss, 1922: 255–59), One Fathom Bank Lighthouse (Robinson and Kloss, 1922: 253–55) and the Aroa Islands (Robinson, 1906: 8–16). Where these authors quote the number and sex of the specimens taken the information is given here in the same form. Where there is no precise indication of the specimens taken a single plus sign (+) is given if their account shows that the bird was present in small numbers, and a double plus sign (++) if it appeared to be more plentiful. Visual records from the above papers are entered as "seen": this is preceded by a query if some doubt is expressed in the published account. In addition I have added forms not shown in the papers cited above where the Raffles Museum collection contains specimens said to have come from these localities. This applies particularly to the Sembilan Islands and Pulau Jarak. There are several formal records for Pulau Lalang, and some visual records for the low-lying rocky islets, in the former group obtained after 1922. Also, as is shown in the text above, there are a number of records for Pulau Jarak established by the collecting done in April 1932: these have not previously been published, except in the instances where reference is made to them in Gibson-Hill, 1949: *passim*. All such additional records are shown in brackets.

The penultimate column shows a plus sign (+) if the birds covered by the records from the middle section of the Malacca Strait have also been reported from Pulau Pisang, at its south end. This column does not attempt to provide a full list of the birds known from Pisang, a subject which will be dealt with at a later date. The aim here is merely to indicate whether or not the birds recorded from the islands in the middle portion of the Strait are at present known to reach, or reside at, its southern extremity.

The last column shows the status of the birds in Malaya as a whole. In most cases birds shown as "resident" are probably nesting on the mainland only, and reaching the islands during local migratory movements outside the breeding season. This point is discussed in more detail in the text.

Checklist Number and Name	*Jarak*	*Sembilan Is.*	*One Fathom Bank*	*Aroa Is.*	*Pisang*	*Status in Malaya*
2 *Oceanodroma m. monorhis* (Swinh.)	..	..	1 ♂	..	..	Winter Visitor, eastern end Singapore Strait.1
7 *Sula leucogaster plotus* (Forst.)	(1 ad.)	..	1 ♂	++	+	Resident Malacca Strait.2
8 *Phalacrocorax carbo sinensis* (Blum.)						
11 *Fregata a. ariel* (G. R. Gray) ..	..	(1 ad.)	..	..	..	Occasional Vagrant.
12 *Ardea s. sumatrana Raffles* ..	..	..	..	++	..	?Resident Malacca Strait.2
15A *Butorides striatus javanicus* (Horsf.)	..	(1 ad.)	..	seen	..	Resident.
22 *Demigretta sacra* (Gmel.) ..	2 ♂, 1 ♀	(1 ad.)	1 ♂	++	+	Resident.
23 *Nycticorax n. nycticorax* (Linn.)	1 ♀ ..	1 ♀ ..	.. ..	+ 1 imm.	+ ..	Resident. Resident, in the north.3
24 *Gorsachius m. melanolophus* (Raffles)	2 ♂, 2 ♀	1 ♂	..	1 imm.	..	Passage Migrant and Winter Visitor, western Malaya.
25 *Ixobrychus s. sinensis* (Gmel.)	..	..	1 ♂, 1 ♀	..	+	Passage Migrant and Winter Visitor.4

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[1] Probably not uncommon at the eastern end of the Singapore Strait from September to May. This is the only formal record for this species west of Singapore Island. There are visual records for Wilson's Storm Petrel, *Oceanites oceanicus* (Kuhl) from the neighbourhood of the Aroas, and other parts of the Malacca Strait, but no specimens have yet been taken in this area.

[2] For details of the range and status of *Sula leucogaster* and *Fregata ariel* in the Malacca Strait see Gibson-Hill, 1950, this journal, pages ..

[3] A summary of the status of the Night Heron, *Nycticorax n. nycticorax* (Linn.), in Malaya is given in the Checklist, page 26. It is probably breeding in small, localised areas on the coasts of Kedah and Perak.

[4] The Yellow Bittern, *Ixobrychus sinensis* (Gmel.), is certainly more numerous and widespread than the Tiger Bittern, *Gorsachius melanolophus* (Raffles), on the mainland during the winter months, but it would appear to be the less common of the two in the Malacca Strait area. Similarly *Pernis apivorus orientalis* is not uncommon on the mainland, and there are a number of formal records for Singapore Island.

Checklist Number and Name	Jarak	Sembilan Is.	One Fathom Bank	Aroa Is.	Pisang	Status in Malaya
28 *Dupetor f. flavicollis* (Lath.) ..	1 ♂, 2 ♀	1 ♀	1 ♂, 4 ♀	1 ad., 1 imm.	+	Passage Migrant and Winter Visitor.
46B *Pernis apivorus orientalis* Tacz.	..	..	..	1 ♀ imm.	..	Passage Migrant and Winter Visitor.
49 *Accipiter badius poliopsis* (Hume)	..	1 ♀ imm.	..	..	..	Occasional Vagrant.[5]
50 *Accipiter soloensis* (Horsf.) ..	1 ♂	1 ♂ imm.	..	..	+	Passage Migrant and Winter Visitor.
52 *Accipiter virgatus gularis* (T. and S.)	3 ♂, 6 ♀	3 ♂ imm. 10 ♀ imm.	1 ♀	30+	+	Passage Migrant and Winter Visitor.
60 *Haliæetus leucogaster* (Gmel.)	(seen)	(seen)	..	seen	+	Resident.
74 *Falco peregrinus calidus* Lath.	(2 imm.)	(1 ♀)	..	2 ♂, 1 ♀	..	Passage Migrant and Winter Visitor.
94 *Rallina fasciatus* Raffles ..	..	..	6 ♂, 11 ♀	..	+	Resident and Winter Visitor.
95 *Rallina e. nigrolineata* (G. R. Gray)	..	1 ♂	1 ♂, 3 ♀	..	..	Winter Visitor.[6]
100A *Amaurornis phœnicurus chinenis* (Bodd.) ..	1 ♂, 3 ♀	..	1 ♂, 1 ♀	1 ♂	..	Resident: migrates locally.
101 *Gallicrex cinerea* (Gmel.) ..	..	(1 ♀ imm.)	(1 ♂, 1 ♀)	..	+	Passage Migrant and Winter Visitor.
117 *Numenius phæopus variegatus* (Scop.)	..	..	..	1 ♀	..	Passage Migrant and Winter Visitor.

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[5] The only additional authentic records for this bird in the Malay States are a female taken off the Perak coast (*nat. coll.*) and a male from Sitiawan in Perak (*Edgar*). The Raffles Museum also has a mounted specimen said to have been taken on Singapore Island in December, 1891.

[6] This is not a common bird on the mainland: the records are summarised in the Checklist, page 54.

Checklist Number and Name	*Jarak*	*Sembilan Is.*	*One Fathom Bank*	*Aroa Is.*	*Pisang*	*Status in Malaya*
127 *Xenus cinereus* (Guld.) ..	..	..	1 ♂	..	..	Passage Migrant and Winter Visitor.
128 *Actitis hypoleucos* (Linn.) ..	(1 ♂)	+	..	1 ♀	+	Passage Migrant and Winter Visitor.
132 *Capella stenura* (Bp.) ..	..	..	1 ♂	..	..	Passage Migrant and Winter Visitor.
141 *Erolia subminuta* (Middend.)	..	..	1 ♀	..	..	Passage Migrant and Winter Visitor.
151 *Sterna hirundo longipennis* (Nordm.)	1 ♀	(1 ♂)	1 ♂	(1 imm.)	..	Passage Migrant and Winter Visitor.
(152) *Sterna dougallii korustes* (Hume)	..	..	..	3 ♂	..	Probably resident in the Malacca Strait.[7]
153 *Sterna s. sumatrana* Raffles ..	..	(+)	..	..	..	Resident.
154 *Sterna a anæthetus* Scop. ..	..	(+)	1 ♂, 2 ♀	1 ♂	..	Resident.[8]
155B *Sterna albifrons pusilla* Temm.	..	..	2 ♀	..	..	Winter Visitor, Malacca Strait.[9]
157 *Thalasseus b. bengalensis* (Less).	(1 ♂)	..	..	..	..	Winter Visitor, Malacca and Singapore Straits.

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[7] The form given in the checklist, *bangsi* Mathews, is resident on the east coast of Malaya. The bird here is the Indian race which has not yet been taken in Malayan waters (the Aroa Islands are part of Sumatra).

[8] The Bridled Tern nests in small numbers in the Sembilan group and probably in greater numbers in the Aroa group: see Gibson-Hill, this journal, pages 30–38.

[9] The Chinese race of this bird, *sinensis* Gmelin, breeds on the east coast of Malaya, but does not apparently reach the Malacca Strait. The bird here, *pusilla* Temminck, breeds in India and Burma, and occurs in our area only as a passage migrant and winter visitor.

Checklist Number and Name	*Jarak*	*Sembilan Is.*	*One Fathom Bank*	*Aroa Is.*	*Pisang*	*Status in Malaya*
158 *Anoüs stolidus pileatus* (Scop.)	1 ♂	..	..	..	..	Occasional Visitor.
160 *Sphenurus s. seimundi* (Rob.)	..	(2 ♀)	..	..	..	Resident: migrates locally.
163 *Treron c. curvirostra* (Gmel.)	..	1 ♂	1 ♂, 2 ♀	..	+	Resident: migrates locally.
168 *Ptilinopus jambu* (Gmel.) ..	..	2 ♂, 4 ♀	6 ♂, 5 ♀	1 ♂	+	Resident: migrates locally.
170 *Ducula bicolor* (Scop.) ..	2 ♂	5 ♂, 1 ♀	..	..	+	Resident.
177 *Chalcophaps i. indica* (Linn.)	..	2 ♂	..	..	+	Resident.10
178 *Caloenas n. nicobarica* (Linn.)	1 ♂, 1 ♀	1 ♂, 2 ♀	..	..	+	Resident.
182 *Clamator coromandus* (Linn.)	..	(1 ad.)	1 ♀	++	+	Passage Migrant and Winter Visitor.
185A *Cuculus fugax nisicolor* (Blyth)	..	2 ♀ imm.	3 ♂, 1 ♀	3 ad., 6 imm.	..	Passage Migrant and Winter Visitor.
186 *Cuculus m. micropterus* Gould	1 ♀	1 ♀	1 ♂	1 ad. 4 imm.	+	Resident and Winter Visitor.
187 *Cuculus s. saturatus* Blyth ..	..	..	..	1 ♂	..	Passage Migrant and Winter Visitor.
196A *Surniculus lugubris dicruroides* (Hodgs.)	(1 ♂)	2 ♂, 2 ♀	1 ♂, 7 ♀	1 ad.	+	Passage Migrant and Winter Visitor.
197 *Eudynamys scolopacea* (hinn.) subspp.	2 ♂	5 ♂, 11 ♀	..	++	+	Passage Migrants and Winter Visitors.

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10. The Emerald Dove probably breeds on both Pulau Rumbia (in the Sembilan group) and Pulau Pisang.

Checklist Number and Name	*Jarak*	*Sembilan Is.*	*One Fathom Bank*	*Aroa Is.*	*Pisang*	*Status in Malaya*
212 *Otus scops malayanus* (Hay) ..	1 ♂	(1 ♀)	1 ♀	?seen	..	Resident: may migrate locally.
219A *Ninox s. scutulata* (Raffles) ..	2 ♂, 4 ♀	..	1 ♀	1 ♂	..	Passage Migrant and Winter Visitor, Malacca Strait.
228 *Caprimulgus indicus jotaka* (T. and S.)	1 ♀	1 ♂, 1 ♀	1 ♂	4 ad.	+	Passage Migrant and Winter Visitor.
232 *Collocalia innominata* Hume	..	..	2 ♂, 1 ♀	..	..	Passage Migrant and Winter Visitor.[11]
250 *Alcedo atthis bengalensis* Gmel.	(1 ♀)	1 ♂	..	..	+	Resident and Winter Visitor: migrates locally.
253 *Ceyx e. erithacus* (Linn.) ..	(1 ♀)	1 ♀	10 ♂, 2 ♀	1 ♀	+	Resident: migrates locally.
258A *Halcyon c. coromanda* (Lath.)	6 ♂, 3 ♀	..	3 ♂, 3 ♀	1 ad.	..	Resident: migrates locally.
260 *Halcyon pileata* (Bodd.) ..	2 ♂	1 ♂	1 ♂	2 ♂, 3 ♀	+	Passage Migrant and Winter Visitor.
261 *Halcyon chloris humii* Sharpe	(1 ♂)	1 ♂ imm.	..	..	+	Resident.
268 *Eurystomus orientalis* (Linn.) subspp.	(1 ♀)	3 ♂, 2 ♀	1 ♀	7 imm.	+	Passage Migrants and Winter Visitors.[12]

[11] E. F. Allen (1948: 83) reports an unidentified swiftlet of the genus *Collocalia* breeding off the Perak coast. Unfortunately it is not possible to make a precise identification from the brief notes that he took. Subsequently, *in litt.*, he gave me the name of the rocky islet on which the colony was situated, but the only occasion on which I have been able to reach it was in the first week in April, 1949, and no birds were then present. Allen also reports a swiftlet of the same genus breeding under a building in Telok Anson, but again I have not yet been able to see a specimen. It is probable that in both cases the birds are *Collocalia francica germani* Oust.

[12] I have not attempted to divide these birds up into the two forms occurring in Malaya as a number of the specimens are no longer in the Raffles Museum collection. Both races are certainly reaching these islands: see note in text, p. 262.

Checklist Number and Name	*Jarak*	*Sembilan Is.*	*One Fathom Bank*	*Aroa Is.*	*Pisang*	*Status in Malaya*
328 *Pitta brachyura cyanoptera* Temm.	1 ♂	1 ♀	11 ♂, 10 ♀	++	+	Passage Migrant and Winter Visitor.
330 *Pitta sordida cucullata* Hartl.	(2 ♂, 1 ♀)	(1 ♀)	1 ♂, 10 ♀	+	+	Resident and Winter Visitor.
331 *Delichon urbica dasypus* Bp.	..	..	1 ♀	..	..	Scarce Winter Visitor.[13]
342 *Pericrocotus roseus divaricatus* (Raffles)	..	1 ♂	3 ♂, 2 ♀	..	+	Passage Migrant and Winter Visitor.
346 *Dicrurus a. annectans* (Hodgs.)	7 ♂, 1 ♀	..	..	++	+	Passage Migrant and Winter Visitor.
446 *Luscinia c. cyane* (Pall.) ..	3 ♂	(1 ♂)	6 ♀	1 ♂ imm.	..	Passage Migrant and Winter Visitor.
457A *Monticola solitaria pandoo* (Sykes)	1 ♀	..	..	..	..	Occasional Visitor.[14]
458 *Turdus o. obscurus* Gmel.....	(1 ♂)	6 ♂, 5 ♀	1 ♂, 1 ♀	++	+	Passage Migrant and Winter Visitor.
459 *Oreocincla d. dauma* (Lath.) ..	..	1 ♀	..	..	..	Only Malayan Record.
460 *Geokichla sibirica* (Pall.) sub spp.	9 ♂, 5 ♀	2 ♂ imm. 3 ♀ imm.	12 ♂, 12 ♀	..	..	Passage Migrant and Winter Visitor.

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[13] The only other formal record for our area is a male taken on Gunong Angsi, Negri Sembilan, alt. 2,000 feet, by Chasen.There are a number of visual records: see Checklist, page 147.

[14] I have not seen this specimen, and the racial designation is doubtful: see note in the text above.

Checklist Number and Name	*Jarak*	*Sembilan Is.*	*One Fathom Bank*	*Aroa Is.*	*Pisang*	*Status in Malaya*
470 *Locustella certhiola* (Pall.) subspp.	..	..	1 ♂, 1 ♀	..	+	Passage Migrant and Winter Visitor.[15]
471 *Locustella lanceolata* (Temm.)	4 ♂, 2 ♀	3 ♂	5 ♂, 9 ♂	1 ♂, 2 ♀	+	Passage Migrant and Winter Visitor.
472 *Acrocephalus arundinaceus orientalis* (T. and S.) ..	(1 ♂)	..	3 ♀	..	+	Passage Migrant and Winter Visitor.
474 *Phylloscopus borealis* (Blas.) subspp.	6 ♂, 2 ♀	3 ♂, 2 ♀	7 ♂, 4 ♀	..	+	Passage Migrant and Winter Visitor. [16]
475 *Phylloscopus i. inornatus* (Blyth)	..	1 ♂	..	..	..	Passage Migrant and Winter Visitor: Few records.
490 *Muscicapa cyanomelana cumatilis* (T. and B.) ..	1 ♂	1 ♀	1 ♂	..	..	Passage Migrant and Winter Visitor.
492 *Muscicapa s. sibirica* Gmel. ..	(1 ♂)	2 ♂, 3 ♀	7 ♂, 2 ♀	..	+	Passage Migrant and Winter Visitor.
493 *Muscicapa ferruginea* (Hodgs.)	1 ♂, 1 ♀	2 ♂	(2 ♂, 1 ♀)	1 ♀	+	Passage Migrant and Winter Visitor.
494 *Muscicapa l. latirostris* Raffles	2 ♂	..	3 ♂	1 ♂	..	Passage Migrant and Winter Visitor.

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[15] Pallas's Grasshopper Warbler is scarce in Malaya. It is known only from a few specimens taken in the vicinity of Kuala Lumpur (January and March, 2 each, *Seimund*), and the three noted above (One Fathom Bank Lighthouse 2, Pulau Pisang 1, all *nat. coll.*). In view of the shortage of material no attempt has been made to determine the races represented in Malaya finally: the majority of the skins available would seem to be referable to the form *minor* David and Oustalet.

[16] These specimens include examples of both the typical race and the Alaskan *kennicotti* (Baird), if the latter is valid.

Checklist Number and Name	*Jarak*	*Sembilan Is.*	*One Fathom Bank*	*Aroa Is.*	*Pisang*	*Status in Malaya*
505 *Muscicapa mugimaki* Temm.	(2 ad.)	5 ♂, 15 ♀	5 ♂, 1 ♀	..	+	Passage Migrant and Winter Visitor.
507 *Muscicapa narcissina zanthopygia* (Hay)	(1 ♂)	..	2 ♀	..	..	Passage Migrant and Winter Visitor.
510 *Rhinomyias brunneata* (H. H. Slater)	(3 ad.)	..	2 ♂, 1 ♀	..	..	Passage Migrant and Winter Visitor.
515 *Terpsiphone paradisi incei* (Gould)	(1 ad. ♂ 2 imm.)	1 ♂	1 ♀	1 ♀	+	Passage Migrant and Winter Visitor.
516 *Terpsiphone a. atrocaudata* (Eyton)	2 ♂ imm.	..	1 ♂, 1 ♀	..	..	Passage Migrant and Winter Visitor.
517 *Pachycephala cinerea butaloides* Stres.	..	1 ♀	..	..	+	Resident.17
518 *Motacilla cinerea melanope* Pall.	..	1 ♀	..	..	..	Passage Migrant and Winter Visitor.
519B *Motacilla flava simillima* Hart.	..	1 ♂	..	..	..	Passage Migrant and Winter Visitor.18

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[17] Must, I think, be resident on both Pulau Rumbia and Pulau Pisang.

[18] This bird is quoted from Robinson and Kloss (1922: 259), but the specimen was actually taken on Pulau Lalang, not on Pulau Rumbia. It is of interest to note that there is not as yet any record of the Wood Wagtail, *Dendronanthus indicus* (Gmelin), from any of the islands in the middle section of the Malacca Strait: I saw a solitary specimen on Pulau Perak in April, 1949, and it has been recorded from Pulau Pisang. The Raffles Museum collection also contains a skin, brought to us by F. G. H. Allen, of a bird which came aboard a vessel travelling south down the Malacca Strait, when it was about 75–100 miles south-west of Pulau Jarak (early October 1950).

Checklist Number and Name	*Jarak*	*Sembilan Is.*	*One Fathom Bank*	*Aroa Is.*	*Pisang*	*Status in Malaya*
524 *Lanius cristatus* Linn. subspp.	..	(1 ad.)	3 ♂, 1 ♀	..	+	Passage Migrant and Winter Visitor.
525 *Lanius tigrinus* Drap. ..	(5 ad.)	..	1 imm.	..	+	Passage Migrant and Winter Visitor.
526 *Aplonis panayensis strigatus* (Horsf.)	..	1 ♀	..	..	+	Resident.19
541A *Leptocoma jugularis microleuca* (Oberh.)	(1 ♂)	2 ♂	..	..	+	Resident.20
Total (in species) 86 ..	**49**	**56**	**52**	**41**	**44**	

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19. This must, I think, be resident on both Pulau Rumbia and Pulau Pisang.

20. This is, apparently, the only sunbird that has been reported from any of the middle section islands: see note in the text.

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Summary

A review is given of the birds reported from Pulau Jarak, a small island in the middle section of the Malacca Strait, situated approximately 40 miles from the nearest point on the coast of Perak and 30 miles from the Sembilan group. The present list is based on published data, hitherto unrecorded specimens in the Raffles Museum collection and information obtained on a recent visit to the island by a party under Dr. J. R. Audy. A comparison is made with the birds known from the other localities in the middle section of the Strait.

A total of 49 species have now been taken on Jarak; 4 of these are sea birds, 2 herons and 1 a wader (the ubiquitous *Actitis hypoleucos*), while 42 are land birds. The majority of the latter (namely 32 species) are passage migrants breeding north of Malaya, and a further 4 birds probably moving locally from areas on the mainland of the peninsula. Only 5 of the birds reported from the island are apparently resident there. These are all species with a known marked tendency to colonise small islands and it seems highly probable that, as other work on the fauna suggests, the island has been populated relatively recently: its resident birds are those associated in this region with an oceanic rather than a coastal island. In this respect Pulau Jarak, and to a lesser extent the Sembilan Islands, differ from the other islands in and adjacent to Malayan waters.